

ROUTING AND TRANSMITTAL SLIP

TO: (Name, office symbol, room number, building, Agency/Post)

Initials

Date

1. DD/PA&E

3 SEP 1981

25X

2.

C/HRPS

4.

5.

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REMARKS

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This is a technical paper that documents a useful methodology that we pioneered. Don't spend much time on it but I wanted you to be aware of it.

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Thanks: I'm aware of it, BUT
don't understand it

25X1

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)

Room No.—Bldg.

C/HRPS

Phone No.

5041-102

SECRET

27/8/81

COMBINED AGE-GRADE DYNAMIC MODEL
Pilot: Commo Technicians

Specifications:

The model displays three age groupings (under 35, 35 to 50, 50 and up) and three grade groupings (GS 5-7, 8-9, 10 and up). The transition matrix is 9x9. The model displays six states of data: recruit (R), separate (W), remain in age and grade group (S), move into next age group (A), move into next grade group (P), and change both age and grade group (P&A). These states are reflected as annual transition rates in a basic matrix while recruitment (R) is distributed as a share vector to the respective age-grade cells. The strength (N) at the beginning of the period is displayed as a vector.

Format:

Grade	5-7			8-9			10+			W
Age	20-34	35-49	50+	20-34	35-49	50+	20-34	35-49	50+	
Col.	1	2	3	4	5	6	7	8	9	

Row	Grade	Age
1		20-34
2	5-7	35-49
3		50+
4		20-34
5	8-9	35-49
6		50+
7		20-34
8	10+	35-49
9		50+

N Vector
R Vector ($\Sigma=1.0$)

Data Sources:

IAB has prepared tailor-made computer runs by grade and age (5 yr groups) for strength, promotions, separations, and EODs. The runs were prepared for FYs 79, 80, and 81 (to date). From these, the data were then aggregated into the larger groupings of 3 grade groups and 3 age groups. The corresponding transition rates were then calculated for entry into the matrix.

Model: LBASEQ was used on the HP mini. The data file used was AGMCØM (revised). (In this notation, AG=age/grade, MC = the career service subgroup, Ø=1980 as the most recent data year, and M=methodological development).

Findings: See attached memo.

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SECRET

26 February 1981

MEMORANDUM FOR: Director of Personnel Policy,
Planning, and Management

FROM : [REDACTED]
DD/HRPI/OPPPM

SUBJECT : Modeling Support for O/Commo

1. This memorandum is for your information only. The graphics have already been provided to [REDACTED] (A/IUO)

2. The attached graphics represent the results of three different models that were used to show five year projections of O/Commo technicians according to grade structure, age structure, and combined age/grade structure. On the particular set of assumptions incorporated into the models, they show a growing concentration of younger technicians (Graphic I), a tendency to increase the number at grade 10 (Graphic II), and some interesting age/grade relationships in Graphic III. For example, the number of younger (age 20-34) technicians at journeyman grades (10 and up) would more than double, while the number of experienced technicians (age 35-49) at grades 8 and 9 would shrink by more than 40%. (S)

3. The combined age/grade model summarized in Graphic III is a developmental effort. It requires a data input that is much more complex, because we have to classify EODs, separations, and promotions according to age and grade. This does produce additional information that should be of interest to management, such as the impact of age on promotion rates and the impact of grade on separation rates. A deterrent to the use of the combined age/grade model has been the unmanageability of a large matrix dealing, for example, with 10 age groups and 10 grade levels (which would require a 100 x 100 matrix in a combined model). Graphic III shows that useful information can be derived from a simplified model that handles the information in consolidated age and grade groupings. (A/IUO)

4. [REDACTED] is also working on combined age/grade models and has already done developmental work [REDACTED] (A/IUO)

5. [REDACTED] has expressed his interest in these results and said he would use them at an O/Commo conference next week. (U)

[REDACTED]

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